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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/601,788 | 08/08/2000 | Hiroki Koyama | 2282-137P | 2183 |

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EXAMINER

NGUYEN, CAM N

ART UNIT PAPER NUMBER

1754

DATE MAILED: 05/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/601,788

Applicant(s)

Koyama et al.

Examiner

Cam Nguyen

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/3/03 (an RCE)
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-17 is/are pending in the application.
- 4a) Of the above, claim(s) 15-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on Aug 8, 2000 is/are a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 8
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after the final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 3/3/03 has been entered.

2. Newly submitted claims 15-17 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

In accordance with the restriction requirement under rule 35 U.S.C. 121, the claims are divided into 2 groups as follows.

- I. Claims 1 & 3-14, drawn to a hydrotreating catalyst, classified in class 502, subclass 305+.
- II. Claims 15-17, drawn to a method of demetallizing a heavy oil using a catalyst, classified in class 208, subclass 177+.

The inventions are distinct, each from the other because:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product

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as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product as claimed can be used in a materially different process of using that product, such as for the purification of automotive exhaust gases.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, and have acquired a separate status in the art as shown by their different classification, and because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 15-17 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

3. Claims 15-17 remain withdrawn for the following reasons:

(A) the product claims are not found allowable.

(B) the process claims do not include all of allowable product limitations.

Claim Rejections - 35 USC § 112 (Second Paragraph)

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1 & 3-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. In claim 1, line 8-10, recitation of "the pore volume determined by the mercury intrusion porosimetry method is 0.87 cm³/g or greater" does not particularly point out what applicants intend to recite.

B. Claim 9 recites the limitation "metal deposition" in line 2. There is insufficient antecedent basis for this limitation in the claim.

C. Claim 9 recites the limitation "fresh catalyst" in line 2. There is insufficient antecedent basis for this limitation in the claim.

It is suggested that applicants amend the claim to recite "...wherein the active metal is 70 g or more ...".

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simpson (U.S. Pat. 4,879,265).

Simpson discloses a process of preparing a catalyst by impregnating the catalytically active metal components with any porous amorphous refractory support particles including gamma alumina (see col. 5, ln 42-51). The support is having a particle size of less than about 100 microns (see col. 5, ln 67- col. 6, ln 1). The total pore volume of the amorphous support is usually from about 0.2 to 2.0 cc/g (see col. 6, ln 41-43). The extruded particles are taught to be having a cross-sectional shape (see col. 6, ln 13-33), thus suggests molding of the support particles. In view of the teaching at col. 6, ln 3-12, the support particles in the form of alumina gel is heat treated to convert into gamma alumina, thus suggests calcining. Simpson further discloses impregnating the active metal components on the support particles to obtain a catalyst (see col. 6, ln 33-35). After impregnation, the support is dried and calcined to produce a catalyst containing active components (see col. 7, ln 25-27).

Simpson discloses a particle diameter of 100 microns, but does not indicate whether the disclosed diameter being a mean particle diameter as applicants claiming. However, it is considered *prima facie obvious* to one of ordinary skill in the art that the mean particle diameter of the support particles disclosed by Simpson would be within the claimed range (of from 10 to 200 μm) since the disclosed particle diameter falls within the claimed range (see Simpson at col. 5, ln 67- col. 6, ln 1).

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8. Claims 13 & 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simpson (U.S. Pat. 4,879,265), as applied to claim 12 above, and further in view of Asaoka et al., "hereinafter Asaoka", (U.S. Pat. 4,562,059).

Simpson discloses a process of preparing a catalyst as described above, except for the following difference.

Simpson does not specifically indicate in the reference that his gamma alumina is obtained by calcining the boehmite powder as applicants claiming. However, such gamma alumina as prepared is conventional and known by Asaoka, as a useful carrier having a large surface, excellent mechanical strength and ability of support catalytic metals uniformly on its surface (see Asaoka at col 1, ln 7-17).

Response to Amendment/Arguments

9. Applicants' amendment/response, filed on 1/6/03, and an RCE, filed on 3/3/03, have been reconsidered, but not deemed persuasive in view of the new grounds of rejections above and the following reasons.

During a personal interview with Mr. Schroeder on March 12, 2003, attorney urged that the limitation of previous claim 2, which is now incorporated into claim 1, is not a narrow range within a broad range situation, but rather it specifies a pore volume of 0.87 cm³/g or greater being total pores. However, upon carefully reviewed of claim 1 again, the Examiner considered that claim 1 does not clearly point out that "the pore volume determined by the mercury extrusion porosimetry method is 0.87 cm³/g or greater" is the total pores.

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Citations

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Same as set forth in previous office action.


Conclusion

11. Claims 1 & 3-17 are pending. Claims 1 & 3-14 are rejected. Claims 15-17 remain withdrawn due to nonelected (distinct) invention. No claims are allowed.


12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Cam Nguyen, whose telephone number is (703) 305-3923. The examiner can normally be reached on M-F from 8:30 am. to 6:00 pm, with alternative Monday off.

The appropriate fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310 (before finals) and (703) 872-9311 (after-final).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Nguyen/cnn 

May 12, 2003


Cam Nguyen
Patent Examiner